

# ABSTRACT

In a method for interpolating, for the purpose of measurement of lengths and/or angles, at least two position-dependent, periodic analog signals that are phase-shifted with respect to each other and that are generated by scanning a measuring scale, the analog signals are converted to a digital data stream using a sigma-delta modulator, the data streams are combined with correctional factors and then with each other to generate a string of results, and the string of results is used to generate new correctional values by the use of a quality criterion to be satisfied for interpolation and also to generate the output signals of interpolation. The values of the string of results are accumulated over a specified time interval in order to generate the correctional values and the output signals. The signal sequence generated by accumulation is used directly as the address sequence for generating the correctional values and the output signal.